PLEASE DELIVER TO PAUL SCHULWITZ

NEED RESULTS BY 4/2/02 IF POSSIBLE, THANKS

Access DB# 69230

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: RICHARD SCHNIZER Examiner #: 76557 Date: 3/12/02

Art Unit: 1635 Phone Number 30 6-5441 Serial Number: 09/580463

Mail Box and Bldg/Room Location: CM1 11E12 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

****

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: CYTOFECTIN DIMERS AND METHODS OF USE THEREOF

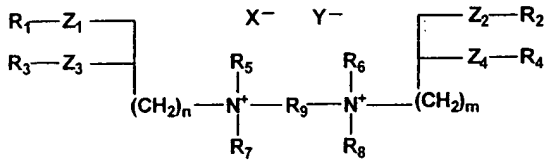
Inventors (please provide full names): CARL J WHEELER

Earliest Priority Filing Date: 5/28/99

For Sequence Searches Only *Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

PLEASE SEARCH CLAIM 47

47. (New) A cationic lipid compound of the following formula



R-C(=O)-O-CH2-N+ and R-O-C(=O)-CH2-N+ (searched both ways)

Q1

wherein

Z_1, Z_2, Z_3 and Z_4 are the same or different and are -O-C(O)- or -O-;

R_1 and R_2 are the same or different and are H, C_1 to C_{24} alkyl or C_1 to C_{24} alkenyl;

R_3 and R_4 are the same or different and are C_1 to C_{24} alkyl or C_1 to C_{24} alkenyl;

R_5, R_6, R_7 and R_8 are the same or different and are H, C_1 to C_{10} alkyl or C_1 to C_{10} alkenyl;

R_9 is a linker;

n and m are the same or different and are 1 to 8; and

X and Y are the same or different and are non-toxic anions;

provided that R_9 is not C_3 to C_{22} unsubstituted alkyl.

****

STAFF USE ONLY

Searcher: Paul Schulwitz

Searcher Phone #:

Searcher Location:

Date Searcher Picked Up: 3/14

Date Completed: 3/14

Searcher Prep & Review Time: 20

Clerical Prep Time:

Online Time:

Type of Search

NA Sequence (#)

AA Sequence (#)

Structure (#) 1

Bibliographic

Litigation

Fulltext

Patent Family

Other

Vendors and cost where applicable

STN ✓

Dialog

Questel/Orbit

Dr.Link

Lexis/Nexis

Sequence Systems

WWW/Internet

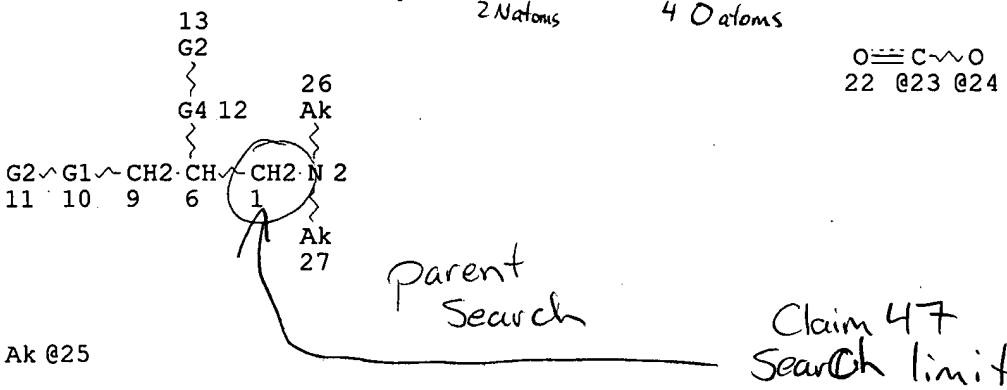
Other (specify)

PTO-1590 (8-01)

POINT OF CONTACT:
PAUL SCHULWITZ
TECHNICAL INFO. SPECIALIST
CM1 6B06 TEL. (703) 305-1954

=> d que
L12 SCR 2040 AND 1993 AND 2007
L16 STR

Charged; at least 2 N atoms; at least 4 O atoms



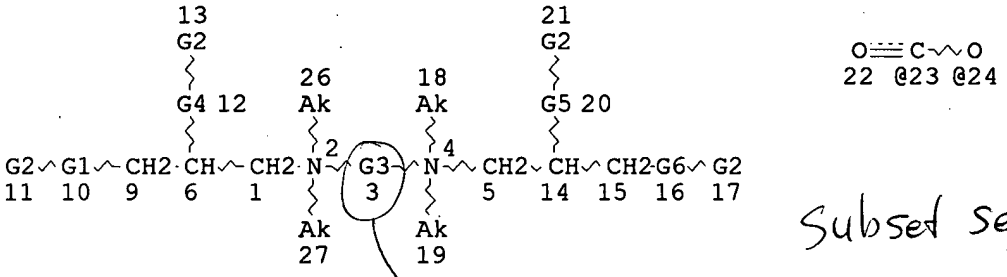
Parent Search

Claim 47 Search limitation m = 1 and n = 1

VAR G1=O/23-11 24-9/24-11 23-9
VAR G2=H/25
VAR G4=O/23-13 24-6/23-6 24-13
NODE ATTRIBUTES:
CONNECT IS E1 RC AT 25
CONNECT IS E1 RC AT 26
CONNECT IS E1 RC AT 27
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 14

STEREO ATTRIBUTES: NONE
L18 STR



Subset search

linker can be 1-20 Anything

VAR G1=O/23-11 24-9/24-11 23-9
VAR G2=H/25
REP G3=(1-20) A
VAR G4=O/23-13 24-6/23-6 24-13
VAR G5=O/23-21 24-14/23-14 24-21
VAR G6=O/23-17 24-15/23-15 24-17
NODE ATTRIBUTES:

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CONNECT IS E1  RC AT  19
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CONNECT IS E1  RC AT  26
CONNECT IS E1  RC AT  27
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS  25

STEREO ATTRIBUTES: NONE
L20          324 SEA FILE=REGISTRY SSS FUL L12 AND L16
L22           35 SEA FILE=REGISTRY SUB=L20 SSS FUL L18
L23           12 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L22
```

324 structures from parent search

35 structures from subset search

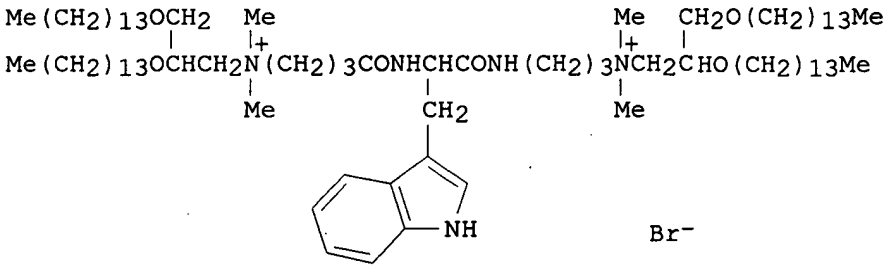
12 References to these 35 structures

L23 ANSWER 1 OF 12 HCAPLUS COPYRIGHT 2002 ACS
AN 2000:861646 HCAPLUS
DN 134:21482
TI Cytofectin dimers and methods of use thereof
IN Wheeler, Carl J.
PA Vical, Inc., USA
SO PCT Int. Appl., 50 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000073263	A1	20001207	WO 2000-US14676	20000526
	W: CA, JP, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	EP 1183231	A1	20020306	EP 2000-939373	20000526
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
PRAI	US 1999-136472	P	19990528		
	WO 2000-US14676	W	20000526		

PCT equivalent

OS MARPAT 134:21482
GI



I

AB A compn. is provided comprising a novel cationic lipid compd. having hydrophobic tails and two quaternary ammonium headgroups bridged by a linker. The compn. is useful as a cytofectin for facilitating delivery and transfection of biol. active agents, particularly anionic bioactive agents such as DNA, into cells. The compn. is useful also as an adjuvant for enhancing the humoral immune response of a vertebrate to an immunogen, esp. an immunogen encoded by a polynucleotide-based vaccine. In certain preferred embodiments, the cationic lipid compd. is a dimer contg. quaternary ammonium headgroups bridged by a linker having DNA and/or cell receptor binding affinity, such as a polypeptide or polyamine. Also disclosed is an immunogenic compn. comprising an immunogen and the compn. of the present invention. I was prepd. as an example compd.

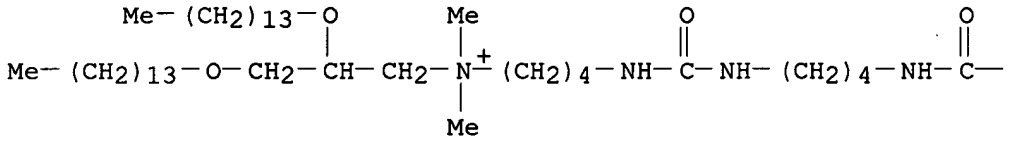
IT **310445-41-1P 310445-42-2P 310445-43-3P**
310445-44-4P 310445-45-5P 310445-46-6P
RL: BPR (Biological process); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(cationic lipids prepn. as cytofectin for delivery and transfection of

biol. agents)

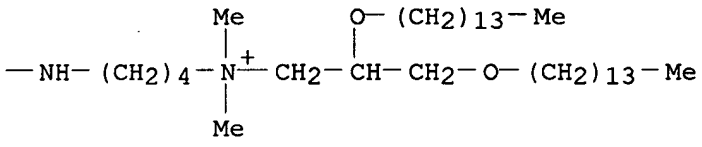
RN 310445-41-1 HCAPLUS

CN 5,7,12,14-Tetraazaoctadecane-1,18-diaminium, N,N'-bis[2,3-bis(tetradecyloxy)propyl]-N,N,N',N'-tetramethyl-6,13-dioxo- (9CI) (CA INDEX NAME)

PAGE 1-A



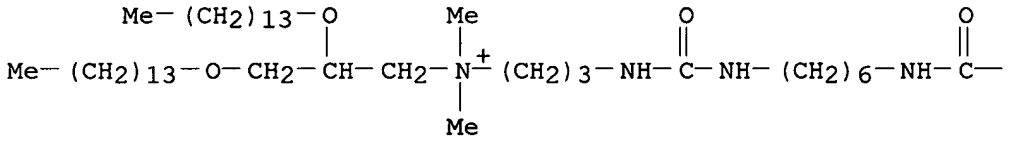
PAGE 1-B



RN 310445-42-2 HCAPLUS

CN 4,6,13,15-Tetraazaoctadecane-1,18-diaminium, N,N'-bis[2,3-bis(tetradecyloxy)propyl]-N,N,N',N'-tetramethyl-5,14-dioxo- (9CI) (CA INDEX NAME)

PAGE 1-A



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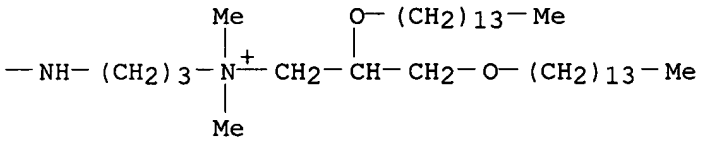
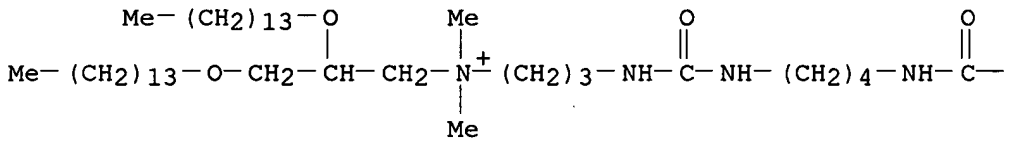


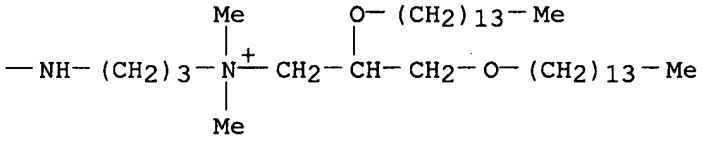
RN 310445-43-3 HCAPLUS

CN 4,6,11,13-Tetraazahexadecane-1,16-diaminium, N,N'-bis[2,3-bis(tetradecyloxy)propyl]-N,N,N',N'-tetramethyl-5,12-dioxo- (9CI) (CA INDEX NAME)

PAGE 1-A

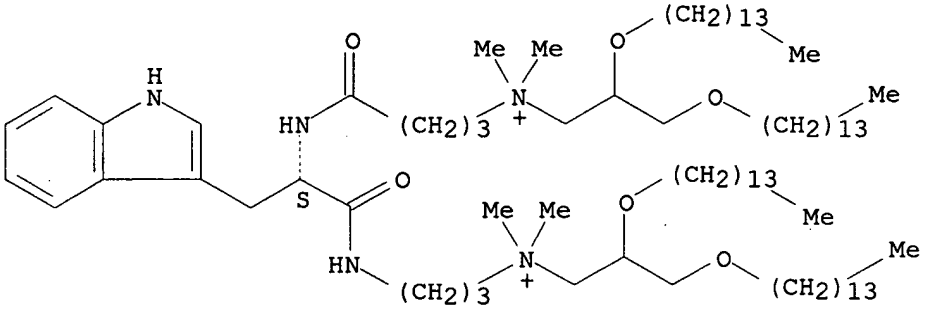


PAGE 1-B



RN 310445-44-4 HCAPLUS
CN 16-Oxa-4,7-diaza-12-azoniatriacontan-1-aminium, N-[2,3-bis(tetradecyloxy)propyl]-6-(1H-indol-3-ylmethyl)-N,N,12,12-tetramethyl-5,8-dioxo-14-(tetradecyloxy)-, dibromide, (6S)- (9CI) (CA INDEX NAME)

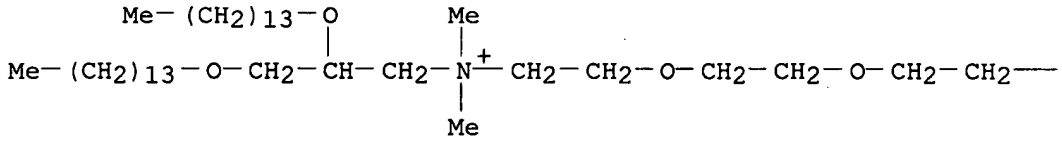
Absolute stereochemistry.



●2 Br^-

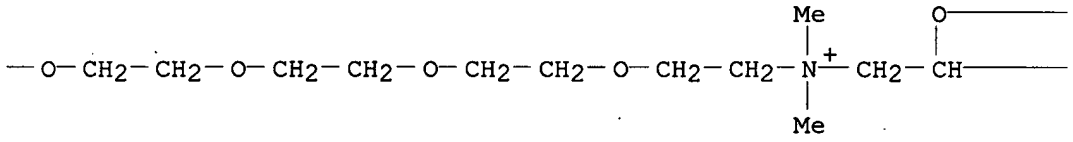
RN 310445-45-5 HCAPLUS
CN 3,6,9,12,15,18-Hexaoxaeicosane-1,20-diaminium, N,N'-bis[2,3-bis(tetradecyloxy)propyl]-N,N,N',N'-tetramethyl-, dibromide (9CI) (CA INDEX NAME)

PAGE 1-A

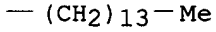


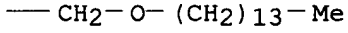
● 2 Br^-

PAGE 1-B



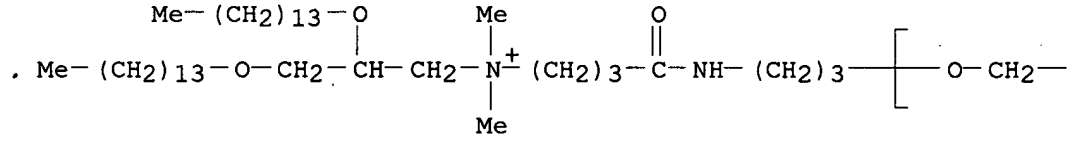
PAGE 1-C





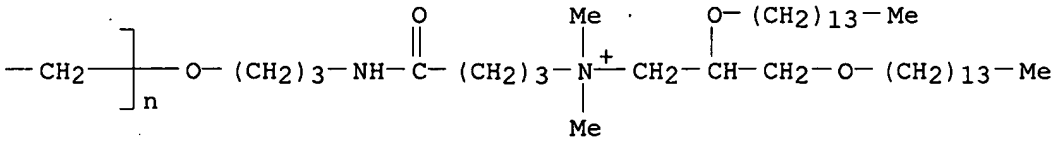
RN 310445-46-6 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), .alpha.-[3-[[4-[[2,3-bis(tetradecyloxy)propyl]dimethylammonio]-1-oxobutyl]amino]propyl]-.omega.-[3-[[4-[[2,3-bis(tetradecyloxy)propyl]dimethylammonio]-1-oxobutyl]amino]propoxy]-, dibromide (9CI) (CA INDEX NAME)

PAGE 1-A

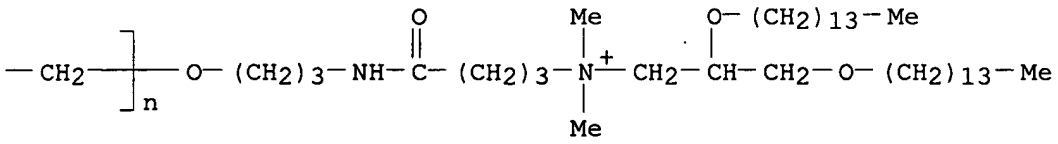


● 2 Br^-

PAGE 1-B



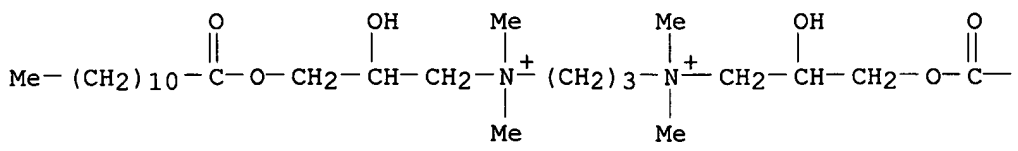
PAGE 1-B



RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

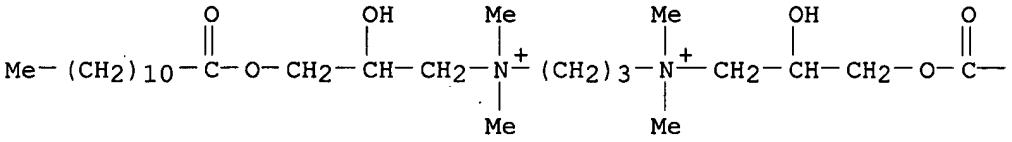
L23 ANSWER 2 OF 12 HCAPLUS COPYRIGHT 2002 ACS
AN 2000:568687 HCAPLUS
DN 133:239731
TI Preparation of quaternary ammonium salts containing ester groups from epichlorohydrin
AU Kim, Tae-Seong; Ha, Jeong-Wook; Kim, Dong-Il; Rang, Moon-Jeong; Ahn, Ho-Jeong
CS LG Household & Personal Care R & D Institute, Yusong-gu, Taejon, 305-343, S. Korea
SO Nihon Yukagakkaishi (2000), 49(7), 701-706
CODEN: NIYUFC; ISSN: 1341-8327
PB Nihon Yukagaku Gakkai
DT Journal
LA Japanese
AB A series of quaternary ammonium salts contg. ester groups in their alkyl chains were prepd. effectively from the one-pot reaction of alkylamine with epichlorohydrin and fatty acid. The reaction of alkylamine, epichlorohydrin and fatty acid was investigated by measuring the acid and amine values of the intermediates. It is considered to be a two step reaction: One is the formation of alkyl chloride contg. an ester group from the reaction of fatty acid with epichlorohydrin. The other is the quaternization of alkylamine with alkyl chloride contg. an ester group. It was also found that the formation of alkyl chloride is greatly assisted by alkylamine, which is the raw material for the quaternary ammonium salt. The surface-active properties of prepd. quaternary ammonium salts were measured and compared with the conventional quaternary ammonium salts.
IT **292610-02-7P 292610-03-8P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(cationic surfactant; prepn. of quaternary ammonium salts contg. fatty ester groups)
RN 292610-02-7 HCAPLUS
CN 1,3-Propanediaminium, N,N'-bis[2-hydroxy-3-[(1-oxododecyl)oxy]propyl]-N,N,N',N'-tetramethyl-, dichloride (9CI) (CA INDEX NAME)

PAGE 1-A



2 Cl^-

PAGE 1-A



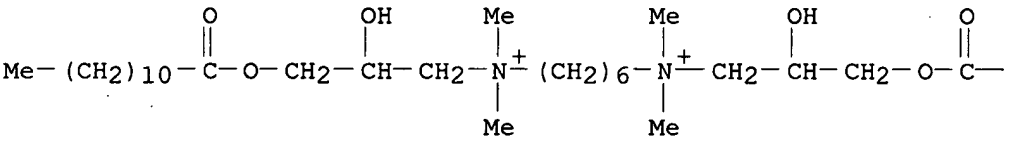
●2 Cl^-

PAGE 1-B

$-(CH_2)_{10}-Me$

RN 292610-03-8 HCAPLUS
CN 1,6-Hexanediaminium, N,N'-bis[2-hydroxy-3-[(1-oxododecyl)oxy]propyl]-N,N,N',N'-tetramethyl-, dichloride (9CI) (CA INDEX NAME)

PAGE 1-A



●2 Cl^-

PAGE 1-B

$-(CH_2)_{10}-Me$

Pub Date?

L23 ANSWER 3 OF 12 HCAPLUS COPYRIGHT 2002 ACS
AN 1999:515550 HCAPLUS
DN 131:299617
TI Synthesis and vesicle formation from dimeric pseudoglyceryl lipids with (CH2)m spacers: pronounced m-value dependence of thermal properties, vesicle fusion, and cholesterol complexation
AU Bhattacharya, Santanu; De, Soma
CS Department of Organic Chemistry, Indian Institute of Science, Bangalore, 560 012, India

SO Chem.--Eur. J. (1999), 5(8), 2335-2347
CODEN: CEUJED; ISSN: 0947-6539
PB Wiley-VCH Verlag GmbH
DT Journal
LA English

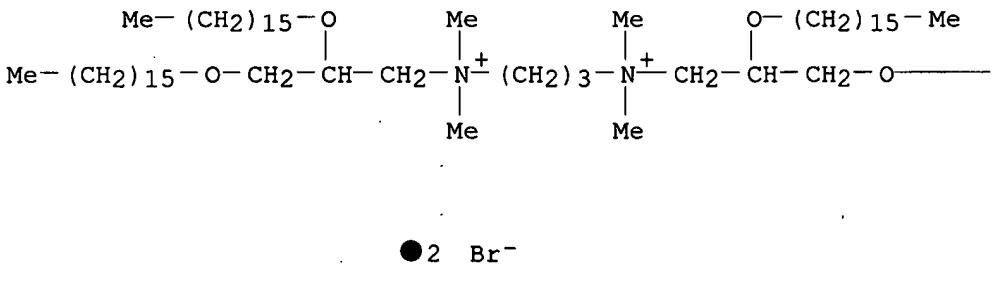
AB Eight new dimeric lipids, in which the two Me2N+ ion headgroups are sepd. by a variable no. of polymethylene units [-(CH2)m-], have been synthesized. The electron micrograph (TEM) and dynamic light scattering (DLS) of their aq. dispersions confirmed the formation of vesicular-type aggregates. The vesicle sizes and morphologies were found to depend strongly on the m value, the method, and thermal history of the vesicle prepn. Information on the thermotropic properties of the resulting vesicles was obtained from microcalorimetry and temp.-dependent fluorescence anisotropy measurements. Interestingly, the Tm values for these vesicles revealed a nonlinear dependence on spacer chain length (m value). These vesicles were able to entrap riboflavin. The rates of permeation of the OH- ion under an imposed transmembrane pH gradient were also found to depend significantly on the m value. X-Ray diffraction of the cast films of the lipid dispersions elucidated the nature and the thickness of these membrane organizations, and it was revealed that these lipids organize in three different ways depending on the m value. The EPR spin-probe method with the doxylstearic acids 5NS, 12NS, and 16NS, spin-labeled at various positions of stearic acid, was used to establish the chain-flexibility gradient and homogeneity of these bilayer assemblies. The apparent fusogenic propensities of these bipolar tetra-ether lipids were investigated in the presence of Na2SO4 with fluorescence-resonance energy-transfer fusion assay. Small unilamellar vesicles formed from H3C(CH2)15OCH2CH[O(CH2)15CH3]CH2NMe3+.Br- and three representative bis-cationic lipids were also studied with fluorescence anisotropy and 1H NMR spectroscopic techniques in the absence and the presence of varying amts. of cholesterol.

IT **202826-37-7P 202826-38-8P 202826-39-9P**
202826-40-2P 202826-41-3P 202826-42-4P
202826-43-5P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and vesicle formation from)

RN 202826-37-7 HCAPLUS

CN 1,3-Propanediaminium, N,N'-bis[2,3-bis(hexadecyloxy)propyl]-N,N,N',N'-tetramethyl-, dibromide (9CI) (CA INDEX NAME)

PAGE 1-A

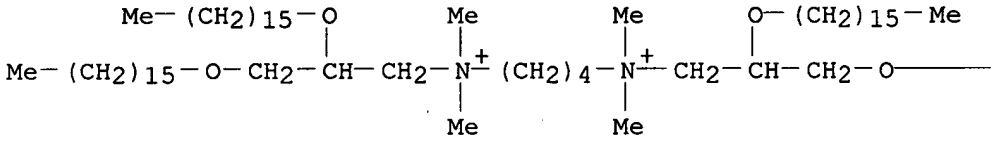


PAGE 1-B

— $(CH_2)_{15}$ — Me

RN 202826-38-8 HCAPLUS
CN 1,4-Butanediaminium, N,N'-bis[2,3-bis(hexadecyloxy)propyl]-N,N,N',N'-tetramethyl-, dibromide (9CI) (CA INDEX NAME)

PAGE 1-A



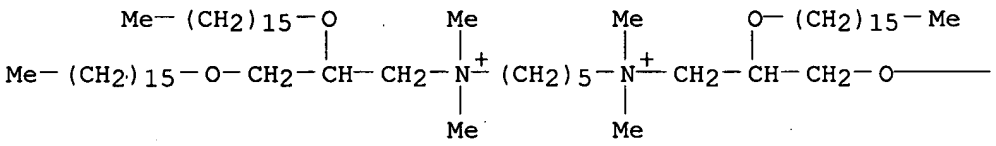
● 2 Br^-

PAGE 1-B

— $(CH_2)_{15}$ — Me

RN 202826-39-9 HCAPLUS
CN 1,5-Pentanediaminium, N,N'-bis[2,3-bis(hexadecyloxy)propyl]-N,N,N',N'-tetramethyl-, dibromide (9CI) (CA INDEX NAME)

PAGE 1-A



● 2 Br^-

PAGE 1-B

— $(CH_2)_{15}$ — Me

PAGE 1-B

—$(CH_2)_{15}$—Me

RN 202826-40-2 HCAPLUS
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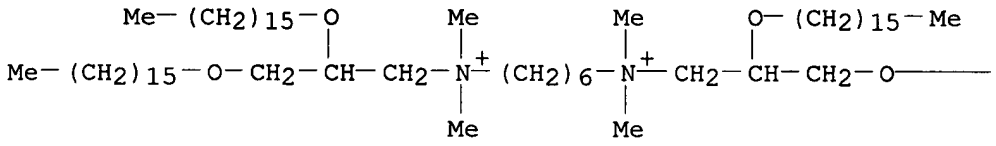
PAGE 1-A



●2 Br^-

PAGE 1-B

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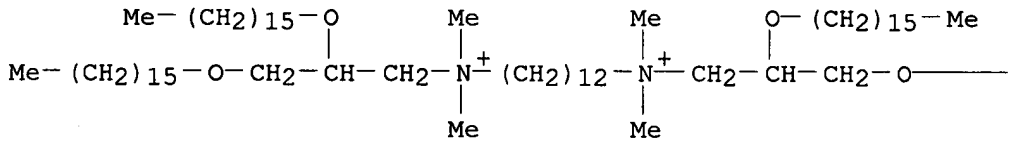
PAGE 1-A



●2 Br^-

PAGE 1-B

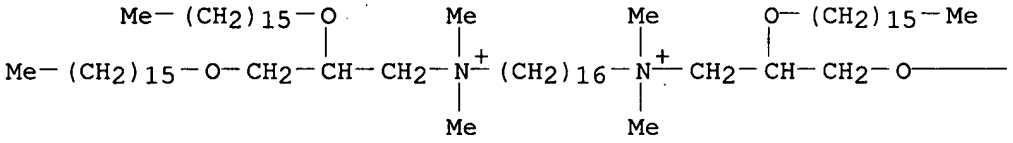
—$(CH_2)_{15}$—Me

PAGE 1-B

—$(CH_2)_{15}$—Me

RN 202826-42-4 HCAPLUS
CN 1,16-Hexadecanediaminium, N,N'-bis[2,3-bis(hexadecyloxy)propyl]-N,N,N',N'-tetramethyl-, dibromide (9CI) (CA INDEX NAME)

PAGE 1-A



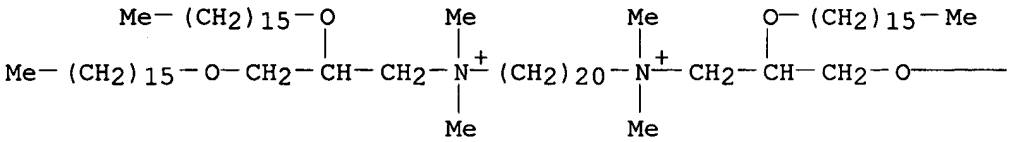
●2 Br^-

PAGE 1-B

—$(CH_2)_{15}$—Me

RN 202826-43-5 HCAPLUS
CN 1,20-Eicosanediaminium, N,N'-bis[2,3-bis(hexadecyloxy)propyl]-N,N,N',N'-tetramethyl-, dibromide (9CI) (CA INDEX NAME)

PAGE 1-A



●2 Br^-

PAGE 1-B

—$(CH_2)_{15}$—Me

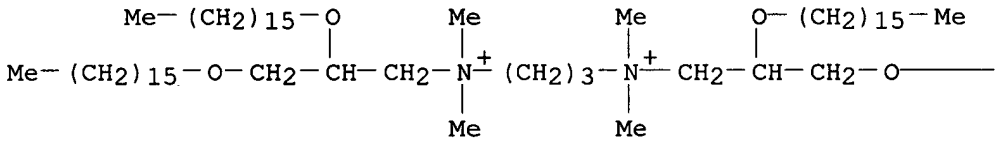
— $(CH_2)_{15}$ — Me

102(b)
for
47, 59

RE.CNT 76 THERE ARE 76 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L23 ANSWER 4 OF 12 HCAPLUS COPYRIGHT 2002 ACS
AN 1997:764187 HCAPLUS
DN 128:159213
TI Synthesis and vesicle formation from novel pseudoglyceryl dimeric lipids. Evidence of formation of widely different membrane organizations with exceptional thermotropic properties
AU Bhattacharya, Santanu; De, Soma; George, Shaji K.
CS Department of Organic Chemistry, Indian Institute of Science, Bangalore, 560012, India
SO Chem. Commun. (Cambridge) (1997), (23), 2287-2288
CODEN: CHCOFS; ISSN: 1359-7345
PB Royal Society of Chemistry
DT Journal
LA English
AB Eight new bis-cationic dimeric lipids 2a-h have been synthesized; TEM of their aq. dispersions confirmed the vesicle formation and from the thermal, spectroscopic, DLS and XRD studies it has been revealed that they form three different kinds of membranous aggregate depending on the m-value.
IT **202826-37-7P 202826-38-8P 202826-39-9P**
202826-40-2P 202826-41-3P 202826-42-4P
202826-43-5P
RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
(synthesis and vesicle formation from pseudoglyceryl dimeric lipids and formation of widely different membrane organizations with exceptional thermotropic properties)
RN 202826-37-7 HCAPLUS
CN 1,3-Propanediaminium, N,N'-bis[2,3-bis(hexadecyloxy)propyl]-N,N,N',N'-tetramethyl-, dibromide (9CI) (CA INDEX NAME)

PAGE 1-A



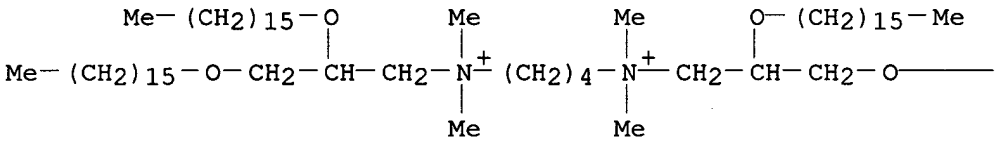
●2 Br^-

PAGE 1-B

—$(CH_2)_{15}$—Me

RN 202826-38-8 HCAPLUS
CN 1,4-Butanediaminium, N,N'-bis[2,3-bis(hexadecyloxy)propyl]-N,N,N',N'-tetramethyl-, dibromide (9CI) (CA INDEX NAME)

PAGE 1-A



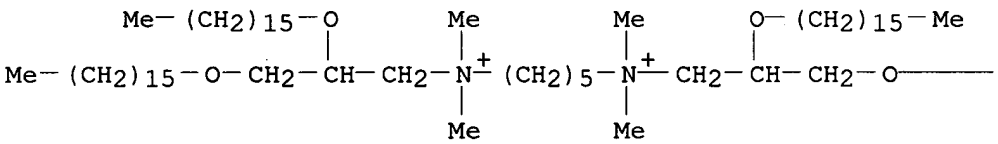
●2 Br^-

PAGE 1-B

—$(CH_2)_{15}$—Me

RN 202826-39-9 HCAPLUS
CN 1,5-Pentanediaminium, N,N'-bis[2,3-bis(hexadecyloxy)propyl]-N,N,N',N'-tetramethyl-, dibromide (9CI) (CA INDEX NAME)

PAGE 1-A



●2 Br^-

PAGE 1-B

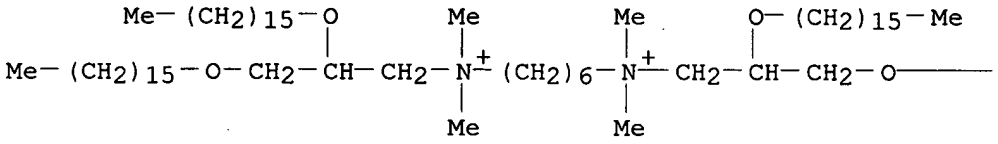
—$(CH_2)_{15}$—Me

PAGE 1-B

—$(CH_2)_{15}$—Me

RN 202826-40-2 HCAPLUS
CN 1,6-Hexanediaminium, N,N'-bis[2,3-bis(hexadecyloxy)propyl]-N,N,N',N'-tetramethyl-, dibromide (9CI) (CA INDEX NAME)

PAGE 1-A



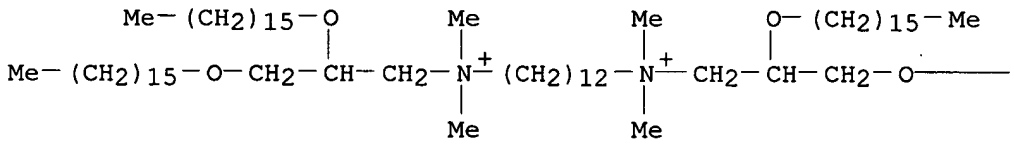
●2 Br^-

PAGE 1-B

—$(CH_2)_{15}$—Me

RN 202826-41-3 HCAPLUS
CN 1,12-Dodecanediaminium, N,N'-bis[2,3-bis(hexadecyloxy)propyl]-N,N,N',N'-tetramethyl-, dibromide (9CI) (CA INDEX NAME)

PAGE 1-A



●2 Br^-

PAGE 1-B

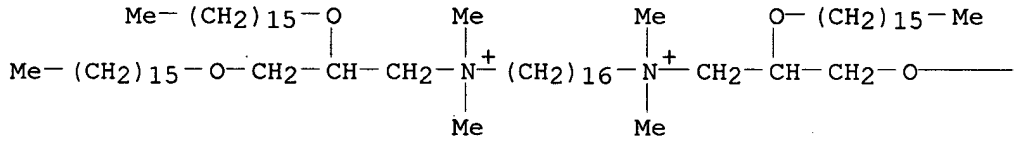
—$(CH_2)_{15}$—Me

PAGE 1-B

—$(CH_2)_{15}$—Me

RN 202826-42-4 HCAPLUS
CN 1,16-Hexadecanediaminium, N,N'-bis[2,3-bis(hexadecyloxy)propyl]-N,N,N',N'-tetramethyl-, dibromide (9CI) (CA INDEX NAME)

PAGE 1-A



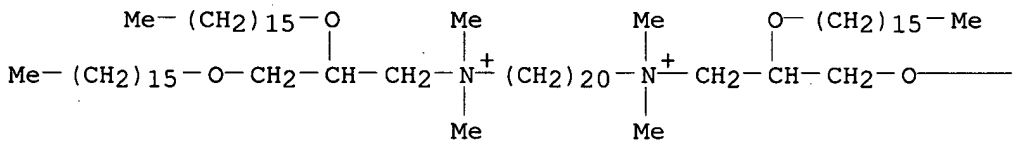
●2 Br^-

PAGE 1-B

—$(CH_2)_{15}$—Me

RN 202826-43-5 HCAPLUS
CN 1,20-Eicosanediaminium, N,N'-bis[2,3-bis(hexadecyloxy)propyl]-N,N,N',N'-tetramethyl-, dibromide (9CI) (CA INDEX NAME)

PAGE 1-A



●2 Br^-

PAGE 1-B

—$(CH_2)_{15}$—Me

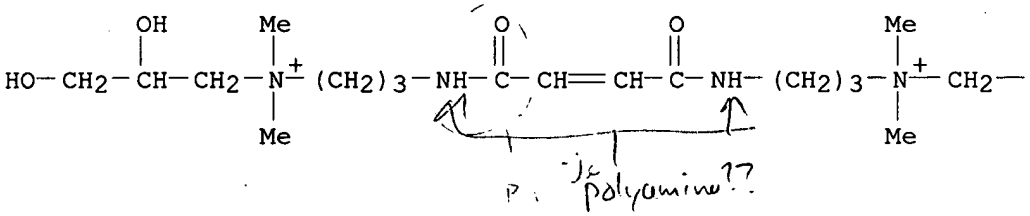
$-(CH_2)_{15}-Me$

L23 ANSWER 5 OF 12 HCAPLUS COPYRIGHT 2002 ACS
AN 1992:511153 HCAPLUS
DN 117:111153
TI Preparation of cationic amides as demulsifying agents for petroleum refining
IN Chen, Robert G.; Son, Adelina J.
PA Baker Hughes Inc., USA
SO U.S., 6 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5117058	A	19920526	US 1990-612659	19901109

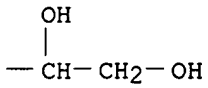
OS MARPAT 117:111153
AB R1(CONHR2NR3R3R4+)22X- (R1 = CnH2n alkylene, CnHn alkenylene, phenylene; n = 0-10; R2 = CmH2m; m = 1-4; R3 = Me, Et, Pr; R4, X- = fragments of quaternizing agent) were prepd. as demulsifying agents for petroleum refining. Thus, fumaric acid was amidated by dimethylaminopropylamine at 150-160.degree. for 2 h and the product quaternized in situ by reaction with epichlorohydrin at 60-100.degree. for 2 h to give trans-HOCH2CHOHCH2NMe2(CH2)3NHCOCH:CHCONH(CH2)3NMe2CH2CHOHCH2OH.cntdot.2Cl (I). A no. of tests using I as a demulsifying agent were performed.
IT **143193-86-6P 143193-87-7P 143193-88-8P**
143193-89-9P 143193-90-2P 143193-91-3P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, as demulsifying agent for petroleum refining)
RN 143193-86-6 HCAPLUS
CN 1-Propanaminium, 3,3'-[(1,4-dioxo-2-butene-1,4-diyl)diimino]bis[N-(2,3-dihydroxypropyl)-N,N-dimethyl-, dichloride (9CI) (CA INDEX NAME)

PAGE 1-A



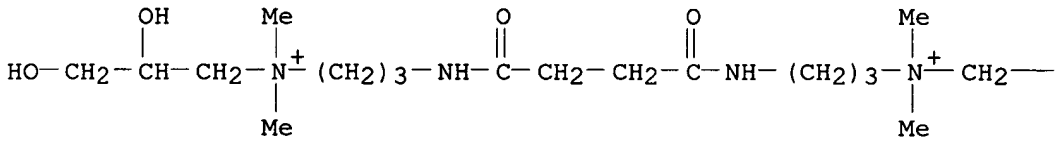
● 2 Cl^-

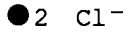
PAGE 1-B



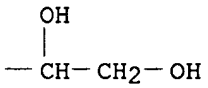
RN 143193-87-7 HCAPLUS
CN 1-Propanaminium, 3,3'-[(1,4-dioxo-1,4-butanediyl)diimino]bis[N-(2,3-dihydroxypropyl)-N,N-dimethyl-, dichloride (9CI) (CA INDEX NAME)

PAGE 1-A



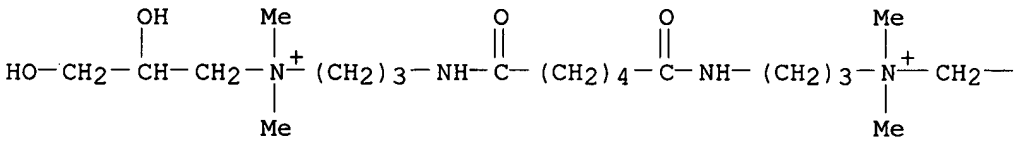


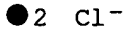
PAGE 1-B



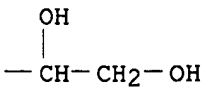
RN 143193-88-8 HCAPLUS
CN 1-Propanaminium, 3,3'-[(1,6-dioxo-1,6-hexanediyl)diimino]bis[N-(2,3-dihydroxypropyl)-N,N-dimethyl-, dichloride (9CI) (CA INDEX NAME)

PAGE 1-A

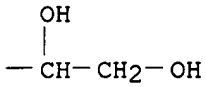




PAGE 1-B

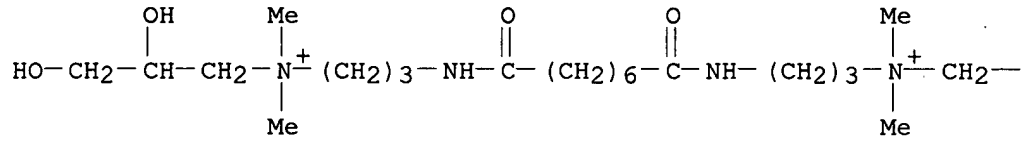


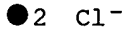
PAGE 1-B



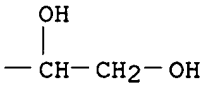
RN 143193-89-9 HCAPLUS
CN 1-Propanaminium, 3,3'-[(1,8-dioxo-1,8-octanediyl)diimino]bis[N-(2,3-dihydroxypropyl)-N,N-dimethyl-, dichloride (9CI) (CA INDEX NAME)

PAGE 1-A



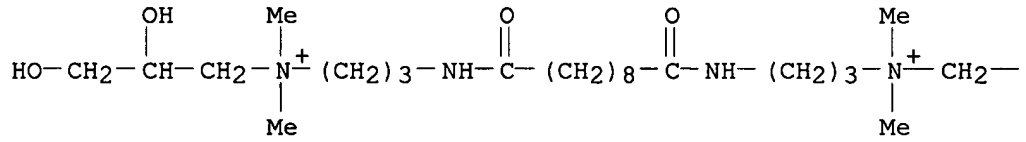


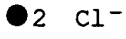
PAGE 1-B



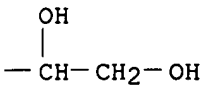
RN 143193-90-2 HCAPLUS
CN 1-Propanaminium, 3,3'-[(1,10-dioxo-1,10-decanediyl)diimino]bis[N-(2,3-dihydroxypropyl)-N,N-dimethyl-, dichloride (9CI) (CA INDEX NAME)

PAGE 1-A

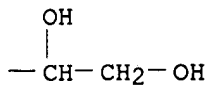




PAGE 1-B

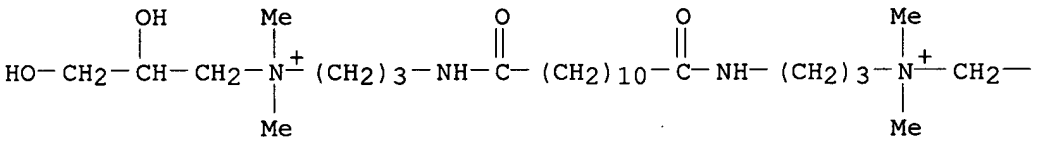


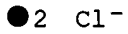
PAGE 1-B



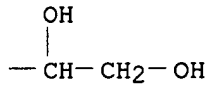
RN 143193-91-3 HCAPLUS
CN 1-Propanaminium, 3,3'-[(1,12-dioxo-1,12-dodecanediyl)diimino]bis[N-(2,3-dihydroxypropyl)-N,N-dimethyl-, dichloride (9CI) (CA INDEX NAME)

PAGE 1-A





PAGE 1-B



L23 ANSWER 6 OF 12 HCAPLUS COPYRIGHT 2002 ACS
AN 1986:543568 HCAPLUS
DN 105:143568
TI Photosensitive polymer compositions
IN Yanagisawa, Kunio; Araki, Yasuhiko; Shobi, Hajime
PA Sekisui Chemical Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 61025139	A2	19860204	JP 1984-146627	19840713
JP 03013582	B4	19910222		

AB The photosensitive polymer compns. contain (A) a photopolymerizable unsatd. monomer having >2 terminal ethylenic group, (B) photosensitizers, (C) a polymer contg. a OH-contg. component, and (D) a compd. contg. .gtoreq.2 amineimide groups. The component D is typically a compd. having the general formula Z(CO:N-N+R1R2R3)n (Z, R, R1, R2, R3 = aliph. or arom. group that may contain O, S, or N atoms; n .gtoreq.2) or its polymer. The compns. useful for prepn. of printing plates and printed circuits are flame-resistant, storage stable, and readily curable to form durable

layers. Thus, a compn. contg. 5:95 .beta.-hydroxyethyl methacrylate-Me methacrylate copolymer 60, pentaerythritol triacrylate 30, benzophenone 3, Michler's ketone 0.5, p-methoxyphenol 0.5, and malonic acid bis[1,1-dimethyl-1-(2-hydroxypropyl)amineimide] 2 parts was dissolved in MEK and coated on a PET film. The obtained material was heat-laminated onto a Cu-laminated board, exposed to UV through a neg. original, sepd. from the PET film, developed with a 1,1,1-trichloroethane spray, and treated at 150.degree. for 10 min to obtain a fine protective pattern which was resistant to MEK, acetone, CHCl3, trichloroethylene, MeOH, 10% H2SO4, toluene, xylene, and pH 12 aq. NaOH (at 70.degree.). It was also resistant to 100 cycles of -65.degree. to 125.degree. treatment (each 1 h) and to 2 h dipping in a 260-270.degree. solder bath.

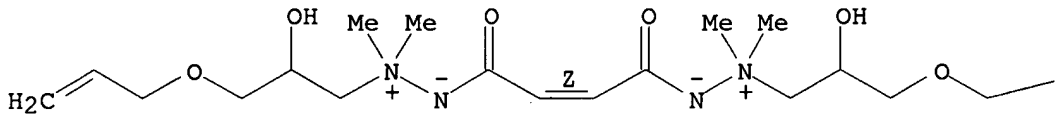
IT **104472-32-4**
RL: USES (Uses)
(photosensitive polymer compns. contg. photopolymerizable ethylenic monomer and photosensitizer and hydroxo-contg. polymer and, for prepn. of photoresists and soldering masks and protective coatings and printing plates)

RN 104472-32-4 HCAPLUS

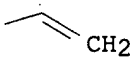
CN Hydrazinium, 2,2'-(1,4-dioxo-2-butene-1,4-diyl)bis[1-[2-hydroxy-3-(2-propenyloxy)propyl]-1,1-dimethyl-, bis(inner salt), (Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



L23 ANSWER 7 OF 12 HCAPLUS COPYRIGHT 2002 ACS
AN 1980:585710 HCAPLUS
DN 93:185710
TI Synthesis and properties of bis(aminimides) containing ether linkages
AU Inokuma, Seiichi; Kameyama, Eiichi; Osawa, Takao; Kuwamura, Tsunehiko
CS Fac. Eng., Gunma Univ., Kiryu, Japan
SO Yukagaku (1980), 29(5), 354-5
CODEN: YKGKAM; ISSN: 0513-398X
DT Journal
LA Japanese
AB Several dibasic acid esters contg. oxyalkylene units (OCH2, OC2H4, unit no.; 1-5) were treated with aminimines derived from alkyl (C8-C12) glycidyl ethers and 1,1-dimethylhydrazine, giving a new series of bis(aminimides) with yields of 30-40%. The introduction of ether linkage

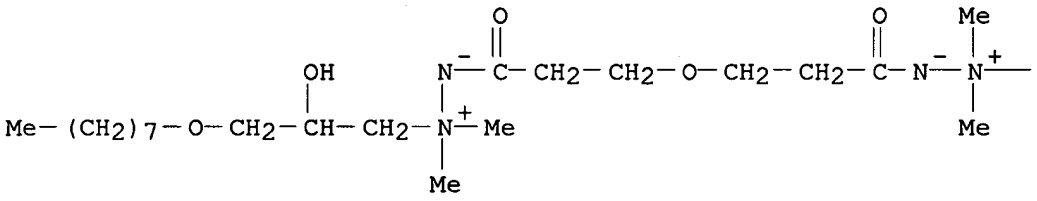
caused a decrease in m.p. and Krafft point of the bis(aminimides). The lower members were more sol. in water and showed high surface activity, but the higher members were less sol. Cloud point and crit. micelle concn. of these surfactants decrease with increasing m. They were effective phase-transfer catalysts for aq. KI-octyl bromide two phase reaction. Their efficiency increases with increasing m. The efficiency of a higher member (m = 5) was much greater that that of dibenzo-18-crown-6 and was close to that of dicyclohexyl-18-crown-6.

IT **75315-99-0P 75316-00-6P 75316-01-7P**
75316-02-8P 75316-03-9P 75316-04-0P
75316-05-1P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and substitution reaction catalysis by)

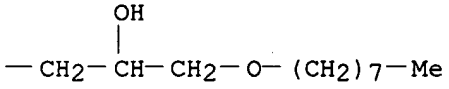
RN 75315-99-0 HCAPLUS

CN 9,18,27-Trioxa-14,22-diaza-13,23-diazoniapentatriacontane, 11,25-dihydroxy-13,13,23,23-tetramethyl-15,21-dioxo-, bis(inner salt) (9CI) (CA INDEX NAME)

PAGE 1-A



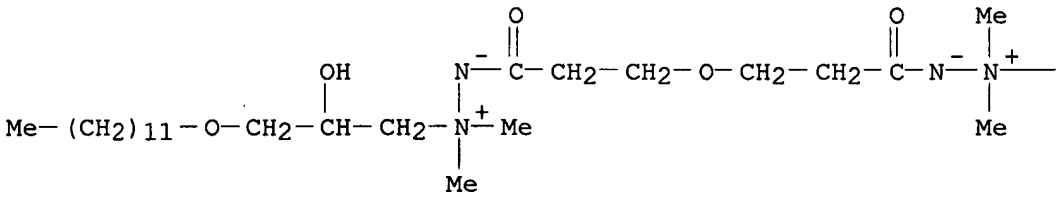
PAGE 1-B



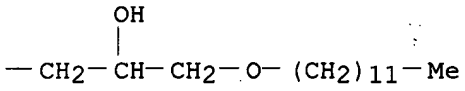
RN 75316-00-6 HCAPLUS

CN 13,22,31-Trioxa-18,26-diaza-17,27-diazoniatritetracontane, 15,29-dihydroxy-17,17,27,27-tetramethyl-19,25-dioxo-, bis(inner salt) (9CI) (CA INDEX NAME)

PAGE 1-A

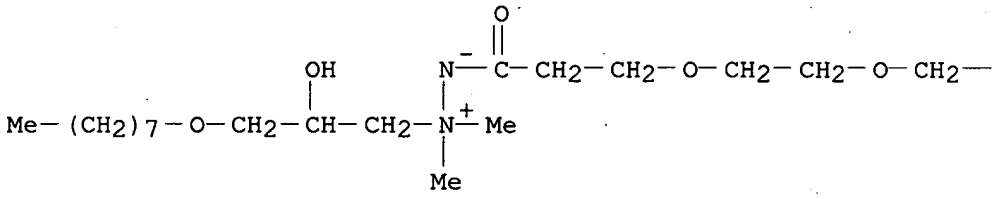


PAGE 1-B

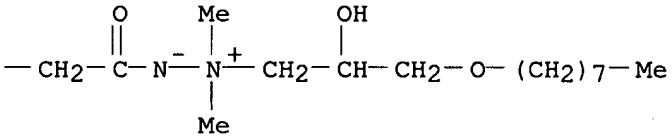


RN 75316-01-7 HCAPLUS
CN 9,18,21,30-Tetraoxa-14,25-diaza-13,26-diazoniaoctatriacontane, 11,28-dihydroxy-13,13,26,26-tetramethyl-15,24-dioxo-, bis(inner salt) (9CI) (CA INDEX NAME)

PAGE 1-A

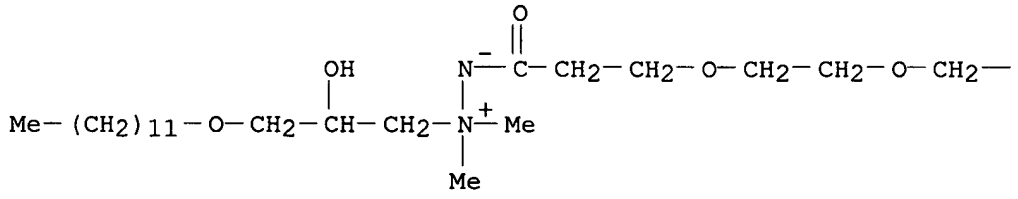


PAGE 1-B

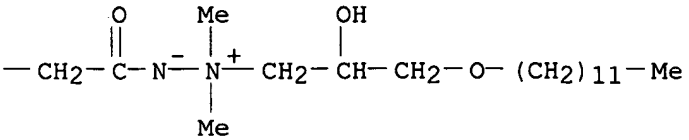


RN 75316-02-8 HCAPLUS
CN 13,22,25,34-Tetraoxa-18,29-diaza-17,30-diazoniahexatetracontane, 15,32-dihydroxy-17,17,30,30-tetramethyl-19,28-dioxo-, bis(inner salt) (9CI) (CA INDEX NAME)

PAGE 1-A

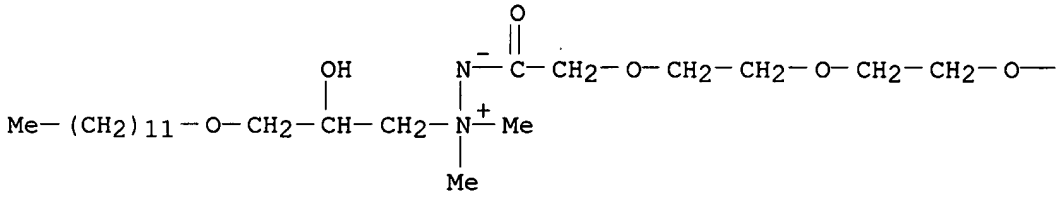


PAGE 1-B

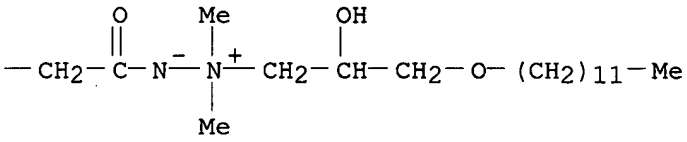


RN 75316-03-9 HCAPLUS
CN 13,21,24,27,35-Pentaoxa-18,30-diaza-17,31-diazoniaheptatetracontane, 15,33-dihydroxy-17,17,31,31-tetramethyl-19,29-dioxo-, bis(inner salt) (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



RN 75316-04-0 HCAPLUS
CN 13,21,24,27,30,33,41-Heptaoxa-18,36-diaza-17,37-diazoniatripentacontane, 15,39-dihydroxy-17,17,37,37-tetramethyl-19,35-dioxo-, bis(inner salt) (9CI) (CA INDEX NAME)

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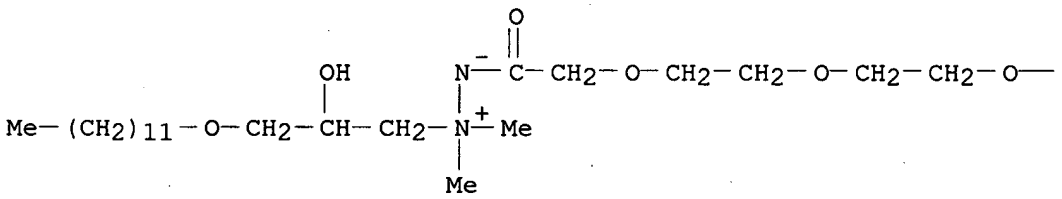

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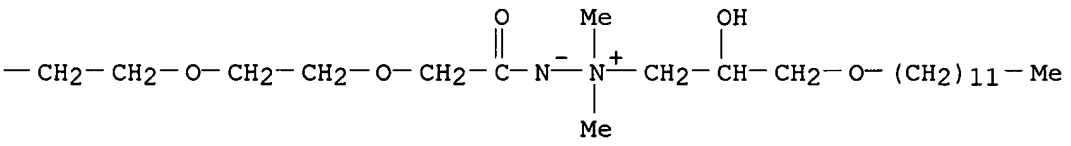

RN 75316-05-1 HCAPLUS
CN 13,36-Dioxa-18,31-diaza-17,32-diazoniaoctatetracontane, 15,34-dihydroxy-17,17,32,32-tetramethyl-19,30-dioxo-, bis(inner salt) (9CI) (CA INDEX NAME)

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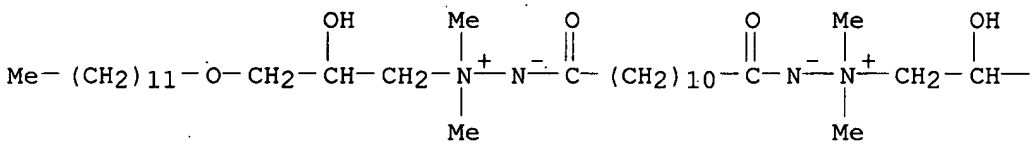
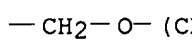


PAGE 1-B



L23 ANSWER 8 OF 12 HCAPLUS COPYRIGHT 2002 ACS
AN 1975:412769 HCAPLUS
DN 83:12769
TI Dishwashing detergent
IN Spadini, Gianfranco L.; Demessemaekers, Emiel
PA Procter and Gamble European Technical Center, Belg.
SO Ger. Offen., 33 pp.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2441944	A1	19750306	DE 1974-2441944	19740902
	NL 7411444	A	19750306	NL 1974-11444	19740828
	US 3983079	A	19760928	US 1974-501531	19740829
	BE 819490	A2	19750303	BE 1974-148169	19740903
	FR 2242460	A1	19750328	FR 1974-29971	19740903
	FR 2242460	B1	19790105		
	GB 1447448	A	19760825	GB 1974-38421	19740903
	JP 50072908	A2	19750616	JP 1974-101804	19740904
PRAI	LU 1973-68355		19730904		

AB Dishwashing detergents contg. a polyethylene-polypropylene glycol (I) [9003-11-6], a quaternary ammonium surfactant, and a (trialkylammonio)alkanoate alkane sulfonate had good cleaning and rinsing properties and dried without leaving visible residues on dishes. Thus, a dishwashing detergent comprised didodecyldimethylammonium bromide [3282-73-3] 1.5, 3-(coconut alkyldimethylammonio)propionate 8.0, I (mol. wt. 2500, ethylene oxide content 10%) 10, coconut dimethylamine oxide 4, coconut diethanolamide 3, R(OC2H4)6OH (R = coconut alkyl) 9, and water 64.5%.

IT **55448-04-9**
RL: USES (Uses)
(dishwashing detergent contg.)

RN 55448-04-9 HCAPLUS
CN 1,3-Propanediaminium, 2-hydroxy-N,N'-bis[2-hydroxy-3-(octyloxy)propyl]-N,N,N',N'-tetramethyl-, dichloride (9CI) (CA INDEX NAME)

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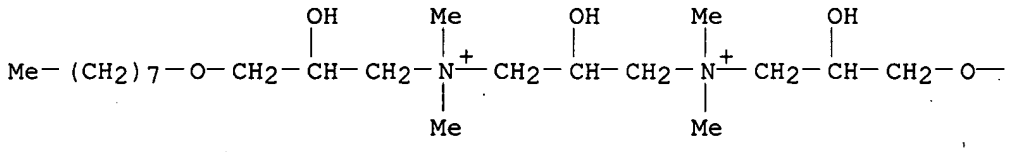

●2 Cl^-

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$-(CH_2)_7-Me$

L23 ANSWER 9 OF 12 HCAPLUS COPYRIGHT 2002 ACS
AN 1974:521812 HCAPLUS
DN 81:121812
TI Epoxy resin compositions of long pot life
IN Matueda, Kanji; Niino, Hideki; Nakano, Yoshitomo
PA Permachem Asia, Ltd.; Mitsubishi Petrochemical Co., Ltd.
SO Ger. Offen., 31 pp.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2357121	A1	19740530	DE 1973-2357121	19731115
	DE 2357121	C3	19781221		
	JP 49074799	A2	19740718	JP 1972-115704	19721120
	JP 55050050	B4	19801216		
	US 3888827	A	19750610	US 1973-416667	19731116
	GB 1423270	A	19760204	GB 1973-53737	19731120
PRAI	JP 1972-115704		19721120		

AB Thermosetting epoxy resin-hardener compns. of long pot life for, e.g., adhesives and coatings consisted of e.g. Epikote 828 (I) [25068-38-6] and aminimide (RCON-N+R1R2R3) hardeners, e.g. BzN-N+Me2CH2Ph (II) [52723-43-0], optionally in combination with hexahydrophthalic anhydride (III) [85-42-7]. Thus, 10 parts II was dispersed in 100 parts I to give a mixt. of pot life >1 month and gelling time >8 hr at 100.deg.. Hardening this mixt. 5 hr at 150.deg. gave a product of flexural strength (JIS-K 6911) 1050 kg/cm2 and deflection temp. (JIS-K 6714) 82.deg..
IT **52723-34-9 52723-36-1**
RL: MOA (Modifier or additive use); USES (Uses)
(crosslinking agents, for epoxy resins)
RN 52723-34-9 HCAPLUS
CN 4,17-Dioxa-9,12-diaza-8,13-diazoniaeicosa-1,19-diene, 6,15-dihydroxy-8,8,13,13-tetramethyl-10,11-dioxo-, bis(inner salt) (9CI) (CA INDEX NAME)

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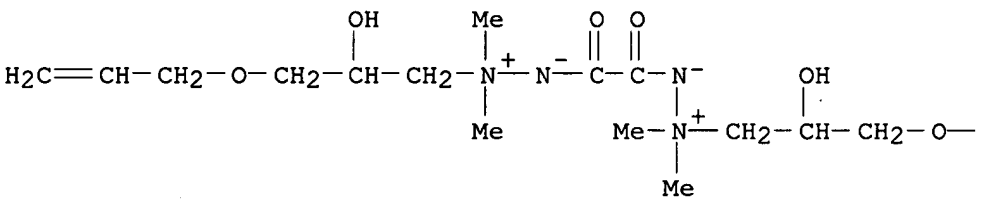

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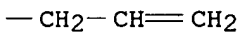
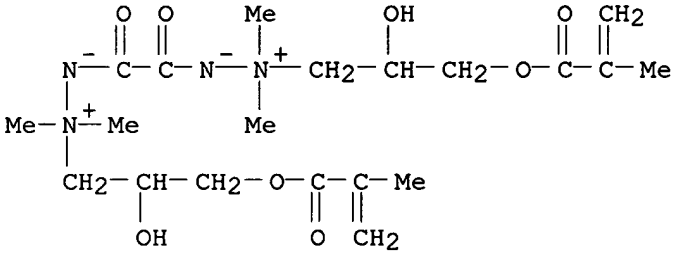


RN 52723-36-1 HCAPLUS
CN 4,17-Dioxa-9,12-diaza-8,13-diazoniaeicosa-1,19-diene, 6,15-dihydroxy-2,8,8,13,13,19-hexamethyl-3,10,11,18-tetraoxo-, bis(inner salt) (9CI) (CA INDEX NAME)



L23 ANSWER 10 OF 12 HCAPLUS COPYRIGHT 2002 ACS
AN 1972:33779 HCAPLUS
DN 76:33779
TI 2-Hydroxy-3-alkoxypropyl ammonium salts
IN Lewis, Morton; Findley, Thomas W.
PA Swift and Co.
SO U.S., 5 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3624082	A	19711130	US 1966-553019	19660526

AB Solns. of quaternary ammonium salts were prepd. by treating 1-halo-2-hydroxy-3-alkoxypropanes with tertiary amines. Thus, 1-chloro-2-hydroxy-3-(decyloxy)propane was refluxed 3 hr with aq. dodecyldimethylamine, iso-PrOH added, and the mixt. refluxed 2.5 hr to give a paste of dodecyl[2-hydroxy-3-(decyloxy)-propyl]dimethylammonium

chloride. Similarly prepd. were 4-[2-hydroxy-3-(dodecyloxy)propyl]-4-methylmorpholinium chloride, 1,2,4-trimethyl-1,4-bis[2-hydroxy-3-(dodecyloxy)propyl]-piperazinium dichloride, and 6 addnl. title compds.

IT **32818-33-0P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

RN 32818-33-0 HCAPLUS

CN 1,2-Ethanediaminium, N,N'-bis[3-(dodecyloxy)-2-hydroxypropyl]-N,N,N',N'-tetramethyl-, dichloride (9CI) (CA INDEX NAME)

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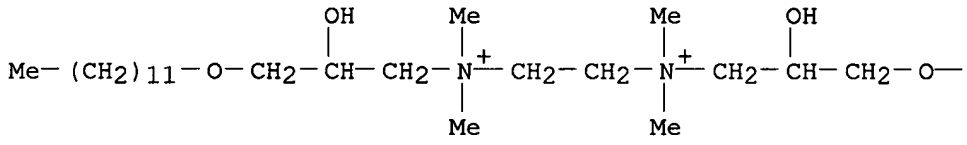

● 2 Cl^-

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— $(CH_2)_{11}$ — Me

L23 ANSWER 11 OF 12 HCAPLUS COPYRIGHT 2002 ACS

AN 1971:405218 HCAPLUS

DN 75:5218

TI Diquaternary ammonium halides

IN Lewis, Morton; Findley, Thomas W.

PA Swift and Co.

SO U.S., 6 pp.
CODEN: USXXAM

DT Patent

LA English

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3567729	A	19710302	US 1968-697291	19680112

AB The title compds., which show surfactant and germicidal properties, prepd. by reacting tertiary amines with 1-chloro-2-hydroxy-3-(dodecyloxy)propane (I) or tertiary amine hydrohalides with glycidyl ethers in the presence of H2O. Thus, I, dodecyldimethylamine, H2O, and iso-PrOH were reacted to give [2-hydroxyl-3-(dodecyloxy)propyl] dimethyldodecylammonium chloride. Also prepd. were (C12H5)Me2N+CH2CH(OH)CH2(OC12H25) Cl-, Et3[(C12H25O)CH2CH(OH)CH2]N+ Cl-, and 4-[2-hydroxy-3-(dodecyloxy)propyl]-4-methylmorpholinium chloride.

IT **32818-33-0P**
RL: SPN (Synthetic preparation); PREP (Preparation)

(prepn. of)
RN 32818-33-0 HCAPLUS
CN 1,2-Ethanediaminium, N,N'-bis[3-(dodecyloxy)-2-hydroxypropyl]-N,N,N',N'-tetramethyl-, dichloride (9CI) (CA INDEX NAME)

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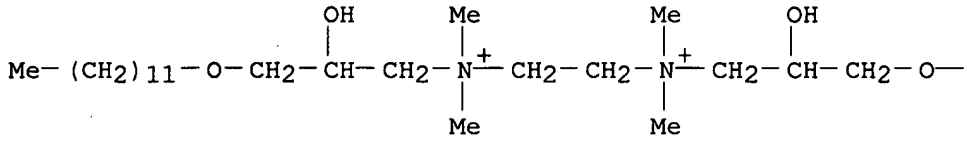
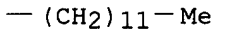


● 2 Cl^-

PAGE 1-B



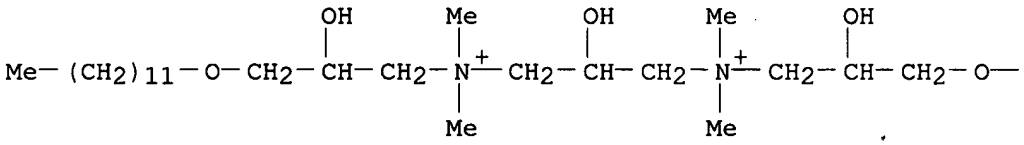
L23 ANSWER 12 OF 12 HCAPLUS COPYRIGHT 2002 ACS
AN 1969:451200 HCAPLUS
DN 71:51200
TI Softened cotton toweling
PA Procter and Gamble Co.
SO Brit., 5 pp.
CODEN: BRXXAA
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI GB 1154439		19690611		
PRAI US		19670524		

AB Cotton and rayon textile fabrics are treated with [[C12H25OCH2CH(OH)CH2NMeCH2]2CHOH].2MeCl (I) or with [(C14H29CH(OH)CH2NMeCH2)2CHOH].2MeCl as a softening agent. These quaternary ammonium compds. give equal softness, but much better water absorption, compared with the prior art softening agent, Arquad 2HT. Thus, water-absorbent cotton fabric was padded to 70% wet pickup with 1% aq. I soln. and dried at 50.degree.. The fabric had softness equal to that of fabric treated with Arquad 2HT but had much greater water absorption, i.e., the rise distance was 9.1 cm. after 5 min. of a wicking test in water, compared with only 1.0 cm. for fabric contg. Ar-quad 2HT and 11.2 cm. for untreated fabric.
IT **22433-97-2**
RL: USES (Uses)
(softened water-absorbent cotton-rayon toweling treated with)
RN 22433-97-2 HCAPLUS

CN Ammonium, (2-hydroxytrimethylene)bis[[3-(dodecyloxy)-2-hydroxypropyl]dimethyl-, dichloride (8CI) (CA INDEX NAME)

PAGE 1-A



● 2 Cl^-

PAGE 1-B

— $(CH_2)_{11}$ — Me